

In the Claims:

Please cancel claims 1, 2, 12-14, 24 and 25.

1. (Canceled)
2. (Canceled)
3. (Currently Amended) The ~~dimensionally stable polymer~~ inflatable medical balloon of claim ~~[[1]]~~ 37, wherein said micro-composite material comprises about 0.1 wt-% to about 20 wt-% of said fibril component.
4. (Currently Amended) The ~~dimensionally stable polymer~~ inflatable medical balloon of claim ~~[[1]]~~ 37, wherein said micro-composite material comprises about 0.5 wt-% to about 8 wt-% of said fibril component.
5. (Currently Amended) The ~~dimensionally stable polymer~~ inflatable medical balloon of claim ~~[[1]]~~ 37, wherein said micro-composite material comprises about 0.5 wt-% to about 15 wt-% of said fibril component.
6. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]]~~ 37, wherein said micro-composite material comprises about 50 wt-% to about 99.9 wt-% of said polymer matrix component.
7. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]]~~ 37, wherein said micro-composite material comprises about 85 wt-% to about 99.5 wt-% of said polymer matrix component.
8. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]]~~ 37, wherein the micro-composite material further comprises a compatibilizer component.
9. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim 8 wherein said compatibilizer is a block copolymer.
10. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of Claim 8 wherein said compatibilizer is selected from the group consisting of copolyester elastomers, ethylene unsaturated ester copolymers, copolymers of ethylene and a carboxylic acid or derivative thereof, polyolefins or ethylene-unsaturated ester copolymers grafted with functional monomers, copolymers of ethylene and a carboxylic acid or derivative thereof, terpolymers of ethylene, copolymers of unsaturated esters and carboxylic acids or derivatives thereof, maleic acid grafted styrene/ethylene-butadiene-styrene block copolymers, acrylic elastomers,

Application No. 09/696378
Page 4

Amendment
Attorney Docket No. S63.2H-9503-US01

glycidyl(meth)acrylates, ionomeric copolymers, polyester-polyether block copolymers, and mixtures thereof.

11. (Currently Amended) The ~~dimensionally stable polymer~~ inflatable medical balloon of claim ~~[[1]] 8~~, wherein said compatibilizer is selected from the group consisting of ethylene-maleic anhydride copolymers, ethylene-methyl acrylate copolymers, ethylene-methyl acrylate-maleic anhydride terpolymers, ethylene-methyl acrylate-methacrylic acid terpolymers, alkyl(meth)acrylate-ethylene-glycidyl(meth)acrylate terpolymers, and mixtures thereof.

12-14. (Canceled)

15. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]] 37~~, wherein the fibril component has a melting point of about 275° C or less.

16. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]] 37~~, wherein the fibril component has a melting point of about 250° C or less.

17. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]] 37~~, wherein the fibril component has a melting point of about 150° to about 249° C.

18. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]] 37~~, wherein the fibril component has a melting point of about 230° C or less.

19. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]] 37~~, wherein the matrix component comprises a semi-compliant thermoplastic polymer.

20. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]] 37~~, wherein the matrix component has a melting point of about 140° C to about 265° C.

21. (Currently Amended) The A dimensionally stable polymer balloon having a longitudinal axis and composed of micro-composite material, the micro-composite material comprising a polymer matrix component and a polymer fibril component distributed in the polymer matrix component, of claim 1, wherein the matrix component comprises a polyamide-polyester block copolymer, a polyamide/polyether/polyester block copolymer, a polyester-polyether block copolymer, or a mixture thereof.

22. (Currently Amended) The ~~dimensionally stable polymer~~ inflatable medical balloon of claim ~~[[1]] 37~~, wherein the matrix component has a melting point of about 150° C to about 230° C.

23. (Currently Amended) The ~~dimensionally stable polymer~~ inflatable medical balloon of claim ~~[[1]] 37~~, wherein the matrix component has a melting point of about 220° or less.

Application No. 09/696378
Page 5

Amendment
Attorney Docket No. S63.2H-9503-US01

24-25. (Canceled)

26. (Currently Amended) The ~~dimensionally stable~~ inflatable medical balloon of claim ~~[[1]]~~ 37, wherein the orientation of the micro-fibers relative to the longitudinal axis of the balloon changes through the balloon material in a direction transverse to said longitudinal axis.

27-30. (Canceled)

31. (Currently Amended) An inflatable medical balloon being mounted on a catheter, having a predetermined preinflation length, restricted longitudinal and radial characteristics, and having a circumference and a longitudinal axis comprising:

a matrix material, said matrix material characterized as being semi-compliant; and having a plurality of individual fiber cores mixed therethrough, said cores being evenly distributed about the circumference of the balloon and being composed of one or more materials which are characterized as being stronger than the matrix material and having a bulk elongation less than the matrix material, the bulk elongation between 50% and 150% when the one or more materials are oriented in the direction of the longitudinal axis, and the matrix material and the core material operatively adhering to one another.

32. (Canceled)

33. (Original) The medical balloon of claim 31, wherein the balloon longitudinally expands less than 5% beyond the pre-inflation state.

34-35. (Canceled)

36. (Original) The medical balloon of claim 31, wherein the balloon has a multilayer structure.

37. (New) An inflatable medical balloon which is mounted on a catheter, and has a determined preinflation length, restricted longitudinal and radial characteristics, a circumference and a longitudinal axis, composed of a micro-composite material comprising a polymer matrix component with a polymer fibril component distributed in the polymer matrix component, the polymer fibril component having micro-fibers oriented substantially parallel or diagonally to the longitudinal axis of the balloon, the polymer fibril component composed of one or more members selected from the group consisting of rigid-rod thermoplastic, semi-rigid rod thermoplastic, liquid crystal polymer, which are stronger than the matrix material and have bulk elongation between 50% and 150%, which is less than the matrix material and the fibril component and the matrix component operatively adhere to one another.

Application No. 09/696378
Page 6

Amendment
Attorney Docket No. S63.2H-9503-US01

38. (New) An inflatable medical balloon which is mounted on a catheter, and has a determined preinflation length, restricted longitudinal and radial characteristics, a circumference and a longitudinal axis, composed of a micro-composite material comprising a semi-compliant polymer matrix material with a polymer fibril component distributed in the polymer matrix material, the polymer fibril component having micro-fibers oriented substantially parallel or diagonally to the longitudinal axis of the balloon, the polymer fibril component composed of one or more materials which are stronger than the matrix material and have bulk elongation between 50% and 150%, which is less than the matrix material and the fibril component and the matrix component operatively adhere to one another.